There is no social or economic issue today that isn't also, by definition, an environmental one.
Mike Guerrero, *Buzzworm*, September 1990

Forum

A New Soot Standard?

In the air pollution arena, the spotlight is now shining on a series of studies conducted over the past 5 years which indicates that thousands of deaths a year are caused by inhaling tiny particles of soot, emitted mainly from industrial sites.

If evidence from the studies, conducted by the EPA, NIEHS, and Harvard School of Public Health, proves conclusive, the federal government will have to rewrite the standard for particle pollution, a legal limit which currently allows an estimated 50,000 to 60,000 deaths a year. Rob Brenner, director of the Air Policy Office in EPA's Office of Air and Radiation, said in a recent *New York Times* article, "We have a real concern about the new data. If it turns out that recent analyses show that particles are the much more significant problem than they seemed to be, our efforts to control particles and our acid rain initiatives will not be enough. We will have to do more."

Environmental groups and others claim that research dollars and regulatory efforts aimed at pollution control have focused on other types of pollution such as ozone and sulfur dioxide and, that of the air pollution efforts aimed at particles, most goes to devices such as scrubbers on power plants that catch only large particles (those larger than 10 microns, as opposed to soot particles which are 10 microns or smaller in diameter).

Evidence of health effects of the particles, including deaths among children with respiratory problems, adults with asthma, and the elderly with illnesses such as bronchitis and emphysema, is based on epidemiological studies. One study, which looked at adjusted mortality rates of 8000 adults in 6 communities for 16 years, found a "strong association" with exposure to particles. A second study, also conducted by the Harvard School of Public Health, tracked the relationship of acid rain and respiratory infections in children in 24 communities in the United States and Canada.

Some scientists believe that epidemiological evidence alone is not enough to prove a conclusive cause-and-effect relationship between particle exposure and health effects, and that further research, including exposure studies, is warranted before the legal standard is adjusted.

Many hope the emergence of these data will prompt EPA to perform some of the needed research and reformulate a new particle standard, which by law should have been reviewed and updated last year. However, EPA policy officials predict that any action soon is unlikely, citing lack of manpower in EPA laboratories.

The Carter Center

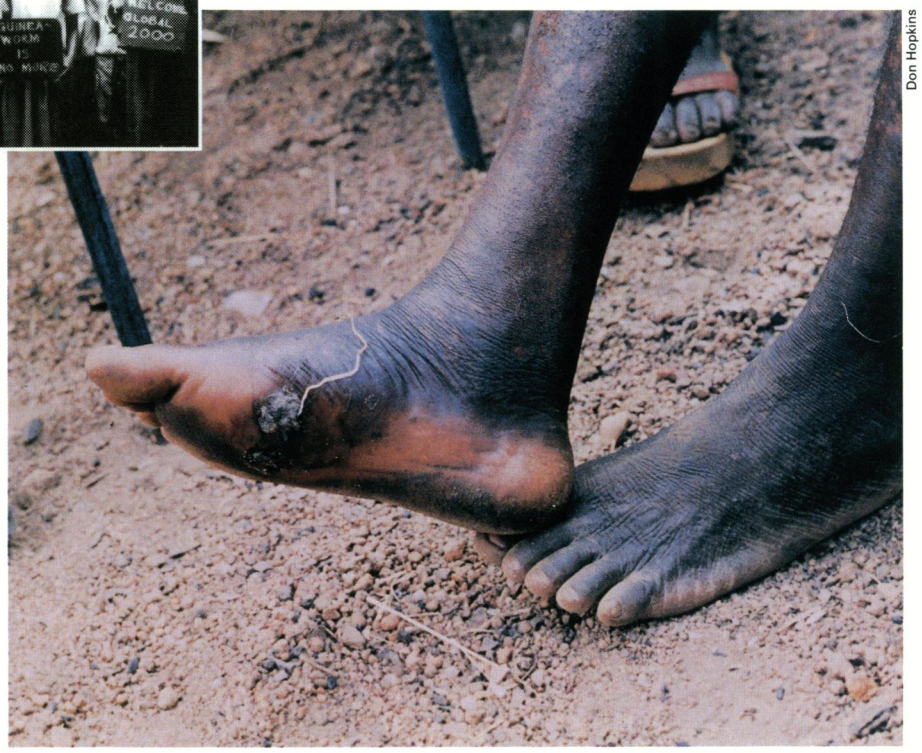
A Hero's Welcome. Students in Ghana greet former President Jimmy Carter.

Guinea Worm Gone

The elimination of smallpox in the 1970s was one of the most dramatic public health achievements of the 20th century. Today, international public health workers are confident that another devastating illness will be eradicated before the year 2000. Dracontiasis, also known as "guinea worm infection," should succumb to a combination of environmental intervention and public health education by 1995. If the prediction is realized, guinea worm infection will be only the second disease to be eradicated.

Dracontiasis is caused by a human parasitic nematode, *Dracunculus medinensis,* common in rural areas of India, Africa, and Pakistan. The larvae of the worm are carried by water fleas that infest drinking water supplies in predominantly rural areas. People are infected by drinking water contaminated with the larvae. These larvae incubate in their human hosts for a year, then transform into a thin worm that grows to a length of two to three feet. When mature, the worm bores out of the body through the skin. The worms produce new larvae that then taint the drinking water, repeating the cycle of infection.

Don Hopkins



Unwelcome guest. Larvae of guinea worms live in their human hosts for a year before the two- to three-feet adult worms bore out through the skin.